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(54) Title: NUCLEIC ACID SUPPORTED PROTEIN COMPLEMENTATION

(57) Abstract: The present invention is directed to novel methods for *in vitro* and *in vivo* detection of target nucleic acid molecules, including DNA and RNA targets, as well as nucleic acid analogues. The present invention is based on protein complementation, in which two individual polypeptides are inactive. When the two inactive polypeptide fragment are brought in close proximity during hybridization to a target nucleic acid, they re-associate into an active, detectable protein.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/32426

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68; C07H 21/04

US CL : 435/6; 530/300; 536/23.1, 24.3

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/6; 530/300; 536/23.1, 24.3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,428,951B1 (MICHNICK et al.) 06 August 2002 (06.08.2002), see whole document.	1-24
Y	US 2002/0064779 A1 (LANDEGREN et al.) 30 May 2002 (30.05.2002), see whole document.	1-24

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	
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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

Databases: USPAT, PG Pub, EPO, JPO, Derwent, Medline, Biosis, CaPlus, Embase, Biotechds

Terms: protein, polypeptide, complementation, nucleic acid, probe, proximity, assembled, oligonucleotide, hybridization